



LESSON FOR PART I (HONS) Zoology

RAJ NARAIN COLLEGE

Hajipur (VAISHALI) - 844101

(A Post Graduate Unit of B.R.A. Bihar University, Muzaffarpur)

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बिहार विश्वविद्यालय

राज नरैन

Dept. of Zoology

Head

Ref. No. :

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Protozoa: (Gr. Proto = first or primitive)

Zoom = animal

Commonly visible and phagocytic heterotrophic animal.

- Term Protozoa was given by Goldfuss, 1818, and unicellular

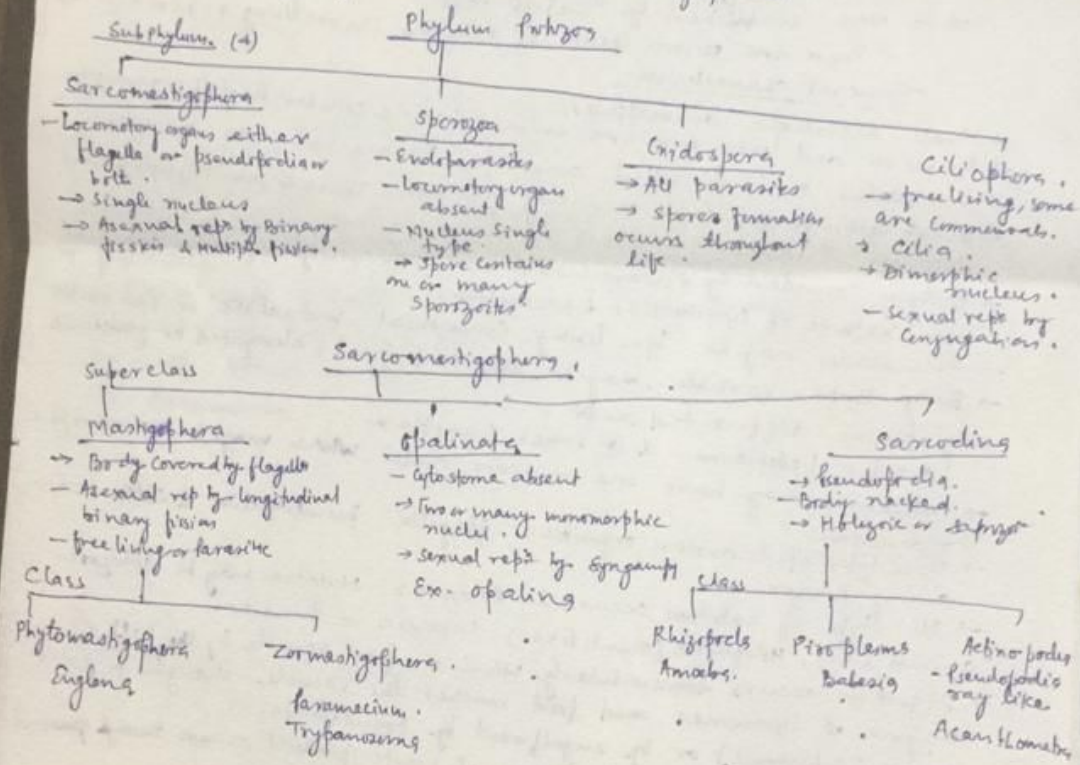
nature was established by Siebold, 1845.

→ There are 50,000 species of Protozoa (30,000 living + 20,000 extinct)

- General characteristics

- Small, microscopic animals.
- Simplest and most primitive animal having cellular level of organization.
- unicellular or single-celled animals, having no tissues or organs.
- Single cell performs all necessary functions. There is no physiological division of labour.
- Body is bounded by plasma membrane. Flexibility of body depend upon nature of cytotrichia & exoskeleton.
- Animals may be free living, commensal, mutualistic or parasitic.
- Body shape variable, may be spherical, oval, elongated or flattened.
- cytoplasm differentiated into
 - ⊙ outer Ectoplasm & ⊙ inner Endoplasm.
- Protozoans may have one or more nuclei, which may be polymorphic or dimorphic.
- Three types of locomotor organelles - flagella, pseudopodia & cilia occur among protozoa.
- All type of nutrition occurs in protozoans. Nutrition may be holozoic, (animal like), holophytic (plant like), saprozoic or parasitic.
- Digestion occurs intracellularly. All in a food vacuole. by the help of enzyme of lysosomes, and food reaches the vacuole through a cell mouth (cytostome) or by engulfment by pseudopods.
- Respiration, excretion and egestion of waste product occurs through general body surface.
- Protozoans are osmoregulate.
- Many protozoans osmoregulates to remove excess water by contractile vacuole.
- Cytolysis occurs in many protozoans.

- Protozoans are sensitive to many kinds of stimuli -
 - ① Touch - Thigmotaxis
 - ② temp - Thermotaxis
 - ③ light - Phototaxis
 - ④ many chemicals - Chemotaxis.
- Intercellular Chemical Signalling (Pheromones) in protozoans involved
 - ☑ Signal molecule such as serotonin, β androphenin, acetylcholine and cyclic AMP.
- Reproduction is asexual or sexual.
 - Asexual by binary fission, Multiple fission & budding or sporulation
 - Sexual by gamete formation or conjugation.





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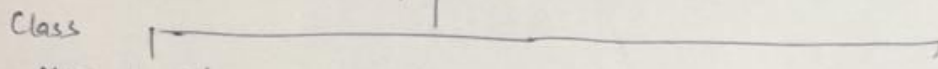
विभागाध्यक्ष

जन्तु विज्ञान

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Subphylum - Cnidosporia



Myxosporidia
 Spores of multicellular origin.
 Ex - Myxobolus

Microsporidia
 Spores are unicellular origin.
 Ex - Nosema

Subphylum - Ciliophora



Ciliata
 • free living
 • definite mouth & gullet.
 • Anal aperture (Cytopyge) absent.
 • Contractile vacuole at definite position.
 Ex - Paramecium

Suctorina
 - sessile, stalked adult ciliates.
 Ex - Suctorina